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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BAG3 NUCLEOTIDE AND PROTEIN SEQUENCES TO BE USED IN RESEARCH, DIAGNOSTICS AND THERAPY FOR CELL DEATH-INVOLVING DISEASES

(57) Abstract: The present invention provides BAG3 nucleotide and protein sequences to be used in research, diagnostics and therapy for modulation of cell survival and/or death, in particular in leukemias, other neoplasias and apoptosis-involving diseases. More particularly the invention refers to the use of specific antisense-based constructs and peptide-specific polyclonal and monoclonal antibodies in leukemias, other neoplasias and cell death-involving diseases.

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 02/14802

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/18 C12N15/11 C12N15/12 C07K14/47 C12N5/10
A61K31/70 A61K39/395 A61K38/17 G01N33/53 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 14106 A (BURNHAM INST) 16 March 2000 (2000-03-16) page 20, line 23 -page 21, line 2 page 23, line 6 -page 24, line 22; claims 24-29	1-29
X	WO 95 25125 A (US HEALTH) 21 September 1995 (1995-09-21) page 3, line 13 - line 19 page 4, line 32 -page 5, line 3 page 11, line 33 -page 12, line 4 page 13, line 33 -page 15, line 6 page 26, line 1 -page 30, line 7 page 31, line 16 - line 26 page 1, line 32 -page 2, line 5 -/--	1-29

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- 'A' document defining the general state of the art which is not considered to be of particular relevance
- 'E' earlier document but published on or after the international filing date
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- 'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- 'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- '&' document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 02/14802

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 03, 31 March 1999 (1999-03-31) & JP 10 327872 A (OTSUKA PHARMACEUT CO LTD), 15 December 1998 (1998-12-15) abstract	1-29
X	--- LIAO Q ET AL: "The anti-apoptotic protein BAG-3 is overexpressed in pancreatic cancer and induced by heat stress in pancreatic cancer cell lines" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 503, no. 2-3, 17 August 2001 (2001-08-17), pages 151-157, XP004300878 ISSN: 0014-5793 page 152, left-hand column, paragraph 6	1-4,6-9, 16-27,29
A	--- TAKAYAMA S ET AL: "AN EVOLUTIONARILY CONSERVED FAMILY OF BAG-1-LIKE HSP70/HSC70 MOLECULAR CHAPERONE REGULATORS" BLOOD, W.B.SAUNDERS COMPAGNY, ORLANDO, FL, US, vol. 92, 15 November 1998 (1998-11-15), page 382A XP001027140 ISSN: 0006-4971 the whole document	1-29
P,A	--- DOONG HOWARD ET AL: "What's in the 'BAG'? : A functional domain analysis of the BAG-family proteins." CANCER LETTERS, vol. 188, no. 1-2, 15 December 2002 (2002-12-15), pages 25-32, XP002250169 ISSN: 0304-3835 the whole document	1-29
P,X	--- LEONE ARTURO ET AL: "Expression and regulation of Bag3 gene by metals and heat." FASEB JOURNAL, vol. 16, no. 5, 22 March 2002 (2002-03-22), page A903 XP009015247 Annual Meeting of Professional Research Scientists on Experimental Biology; New Orleans, Louisiana, USA; April 20-24, 2002, March 22, 2002 ISSN: 0892-6638 the whole document	1-4,6-9, 16-26,29

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 02/14802

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claim 24 covers subject matter directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compounds.

Although claims 24-26 cover subject matter directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compounds.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 02/14802

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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